REMARKS

Claims 1, 4, 6 and 10 remain presented for consideration in this application.

Claims 1, 6 and 10 are rejected under 35 USC 103(a) on Kano (US 5,539,977) in view of Yoriki (US 6,640,431) and Suhara (US 7,043,824). Claim 4 is rejected under 35 USC 103(a) on Kano in view of Yoriki, Suhara and Takeuchi (US 5,661,239). These rejections are respectfully traversed.

Claim 1 recites an electronic component mounting apparatus having a position sensor and a control device. The position sensor senses a vertical position of a lower end of a suction nozzle after the suction nozzle releases an electronic component to a printed board and before a vertical movement of the suction nozzle for picking up the next electronic component from a component feeding unit is performed. The control device determines a range of the vertical movement of the suction nozzle for picking up the next electronic component based on the vertical position of the lower end of the suction nozzle sensed by the position sensor. This combination of features is neither taught nor suggested by the cited references, either alone or together.

The Examiner recognizes that Kano and Suhara perform a stroke-adjusting sensing operation after the picking up of the component with the nozzle and before the mounting operation (that is, while holding the component), in contrast to the claimed invention which performs the sensing operation after mounting the component and before picking up the next component. To compensate for the admittedly insufficient disclosure of Kano and Suhara, the Examiner relies on the nozzle-defect sensing operation of Yoriki. In particular, the Examiner states that it would have been obvious to modify Kano in view of Yoriki and Suhara to arrive at the claimed invention because:

> One of ordinary skill in the art would have been motivated to do so because problems with a suction nozzle can appear at any point during the mounting cycle, not necessarily only after picking up a component but prior to placing the component on a substrate, and thus it would be obvious to add sensors that can detect a faulty or worn nozzle at other times as well, such as after mounting a component but prior to picking up the next component.

Applicants respectfully disagree. The alleged motivation identified by the Examiner would not have been seen by a person of ordinary skill in the art as a reason to combine the cited disclosures of the cited references to arrive at the claimed invention. Yoriki's sensor is configured to detect a defective (e.g., bent or missing) nozzle, while Kano and Suhara's sensor is configured to adjust the stroke of the suction nozzle. The problems to be solved by the two sensors are different from each other. Therefore, the person of ordinary skill in the art would have had no reason to apply the teaching of Yoriki's sensor to Kano and Suhara's sensor, even if that skilled person had known of the disclosures of the cited references.

Further, Yoriki's sensing operation may be performed at any time in the mounting cycle because Yoriki's sensor is configured to detect whether the nozzle is bent or missing. On the other hand, the effect of a sensing operation for adjusting the stroke of a suction nozzle depends on the timing in the mounting cycle at which the sensing operation is performed. According to the claimed invention, the accuracy of detection is improved by detecting the lower end of the nozzle after mounting the component and before picking up the next component. This is made possible because the suction nozzle does not hold the component and leaves the lower end of the suction nozzle free. In contrast, since Kano and Suhara's sensor performs the sensing operation by capturing an image of the nozzle while the component is sucked to the lower end of the nozzle, the accuracy of detecting the lower end of the nozzle is understandably lower than that of the claimed invention. Accordingly, the claimed invention is not obvious over the prior art since the effect described above is not made foreseeable by the cited references for the person of ordinary skill in the art.

In view of the above, early action issuing a Notice of Allowance is solicited.

In the event that the Office determines that an extension and/or other relief is required, Applicants petition for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the

filing of this document to **Deposit Account No. 03-1952** referencing Docket No. **606402015100**.

Dated: October 2, 2008

Respectfully submitted,

By Bradley J. Meier

Bradley J. Meier
Registration No.: 44,236
MORRISON & FOERSTER LLP
1650 Tysons Blvd, Suite 400
McLean, Virginia 22102
(703) 760-7700